

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
LYNN M. THOMPSON
TOWNSEND AND TOWNSEND AND CREW LLP
TWO EMBARCADERO CENTER, 8TH FLOOR
SAN FRANCISCO, CA 94111-3834

PCT

WRITTEN OPINION AUTH.
INTERNATIONAL SEARCHING AUTHORITY

WIPO PCT
(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

FOR FURTHER ACTION
See paragraph 2 below

Applicant's or agent's file reference

18563-87PC

International application No.

PCT/US05/06028

International filing date (day/month/year)

22 February 2005 (22.02.2005)

Priority date (day/month/year)

27 February 2004 (27.02.2004)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): G06F 17/60 and US Cl.: 705/2

Applicant

ALIGN TECHNOLOGY INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Joseph Thomas

Telephone No. 703-308-1113

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US05/06028

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US05/06028

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-25</u>	<u>YES</u>
	Claims <u>NONE</u>	<u>NO</u>
Inventive step (IS)	Claims <u>NONE</u>	<u>YES</u>
	Claims <u>1-25</u>	<u>NO</u>
Industrial applicability (IA)	Claims <u>1-25</u>	<u>YES</u>
	Claims <u>NONE</u>	<u>NO</u>

2. Citations and explanations:

Claims 1-25 lacks novelty under PCT Article 33(2) as being unpatentable over Andreiko (6,616,444) in view of Ackerman (4,665,621).

As per claim 1-25, Andreiko discloses a computer method comprising: providing a database comprising a compendium of at least one of patient treatment history, orthodontic therapies, orthodontic information and diagnostics (See Andreiko, Col. 12, lines 37-67 to Col. 13, lines 11).

Andreiko does not explicitly disclose interrogating said database to generate an output data stream, the output data stream correlating a patient malocclusion with an orthodontic treatment.

However, this feature is known in the art, as evidenced by Ackerman. In particular, Ackerman teaches interrogating said database to generate an output data stream, the output data stream correlating a patient malocclusion with an orthodontic treatment (See Ackerman, Abstract, lines 1-23; Col. 1, lines 1-66; Col. 18, lines 33-68 to Col. 19, line 11).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the feature of Ackerman within the system of Andreiko with the motivation of providing an apparatus which permits accurate measurement of the depth of periodontal pockets with minimum discomfort or risk to the patient (See Andreiko, col. 2, lines 53-56).

Claims 1-25 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

(A) As per claim 1-25, Andreiko discloses a computer method comprising: providing a database comprising a compendium of at least one of patient treatment history, orthodontic therapies, orthodontic information and diagnostics (See Andreiko, Col.12, lines 36-67 to Col.13, lines 11).

Andreiko does not explicitly disclose interroating said database to generate an output data stream, the output data stream correlating a patient malocclusion with an orthodontic treatment.

However, this feature is known in the art, as evidneed by Ackerman. In particular, Ackerman teaches interrogating said database to generate an output data stream, the output data stream correlating a patient malocclusion with an orthodontic treatment (See Ackerman, Abstract, lines 1-23; Col.1, lines 1-66; Col.18, lines 33-68 to Col.19, line 11).

It would have been obvius to one of ordinary skill in the art at the time of the inventiom to have included the feature of Ackerman within the system of Andreiko with the motivation of providing an apparatus which permits accurate measurement of the depth of periodontal pockets with minimum discomfort or risk to the patient (See Anreiko, Col.2, lines 53-56).